

Frequency Mixer

HJK-20VH+ HJK-20VH

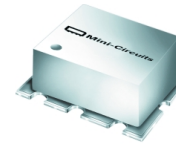
Level 20 (LO Power +20 dBm) 1090 to 1950 MHz

Features

- high IP3, up to 30 dBm typ.
- low spurious
- 2RF-LO, -73 dBc typ.
- 2LO-2RF, -73 dBc typ.

Applications

- for cable tv up converter (second mixer)
- communication systems



CASE STYLE: TTT167
PRICE: \$ 24.95 ea. QTY (1-9)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

See our web site for RoHS Compliance methodologies and qualifications.

Mixer Electrical Specifications (T_{AMB}=25°C)

FREQUENCY (MHz)			CONVERSION LOSS (dB)				SECOND ORDER I.M. (Note 1) (dBc) Max.		IP3@ center band (dBm)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		E FACTOR
RF	LO	IF	Mid-Band m		Total Range	2RF-LO	2LO-2RF	Typ.	Typ.	Min.	Typ.	Min.		
x	σ		Max.	Max.										
1090.00	1167-1950	77-870	7.2	0.2	—	8.5	—	—	30	32	26	34	28	0.9
1090.00	1183-1590	93-500	—	—	—	—	-73	-73						
1090.00	1590-1800	500-710	—	—	—	—	-73	-73						
1090.00	1800-1900	710-810	—	—	—	—	-68	-68						
1090.00	1900-1950	810-860	—	—	—	—	-65	-65						

1 dB COMP.: +15 dBm typ. m = mid band [2f_l to f_h/2] E = [IP3(dBm)-LO Power (dBm)]/10

Note 1. Measured at -14 dBm RF. High order spurious 3RF-2LO, 4RF-2LO, 4RF-3LO, 3RF-2LO, 3RF-2LO (dBc) typ.<-80 dBc

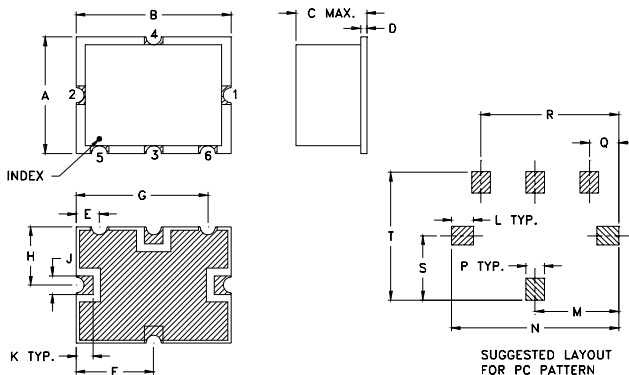
Pin Connections

LO	2
RF	1
IF	3
GROUND	4,5,6

Maximum Ratings

Operating Temperature	-20°C to 85°C
Storage Temperature	-55°C to 100°C
LO Power	+22 dBm

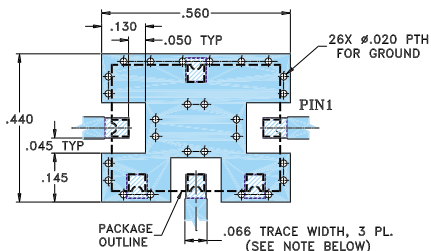
Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	F	G	H	J	K
.375	.500	.23	.020	.075	.250	.425	.187	.050	.050
9.53	12.70	5.84	0.51	1.91	6.35	10.80	4.75	1.27	1.27
L	M	N	P	Q	R	S	T	wt	
.070	.270	.540	.060	.095	.445	.208	.415	grams	
1.78	6.86	13.72	1.52	2.41	11.30	5.28	10.54	0.8	

Demo Board MCL P/N: TB-12 Suggested PCB Layout (PL-079)



- NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350 WITH DIELECTRIC THICKNESS 0.030" ± 0.002" COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. IF YOUR PCB DESIGN RULES ALLOW, GROUND VIAS SHOULD BE PLACED UNDER THE LAND PATTERN FOR BETTER RF PERFORMANCE. OTHERWISE GROUND VIAS SHOULD BE PLACED AS CLOSE TO LAND PATTERN AS POSSIBLE.
3. GROUND PAD SHALL BE FREE OF SOLDERMASK IF REQUIRED FOR SOLDERING.

- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

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Typical Performance Data

FREQ.		Conv. Loss (dB) LO +20 dBm	Isol. L-R (dB) LO +20 dBm	Isol. L-I (dB) LO +20 dBm	VSWR LO port (:1) LO +20 dBm	VSWR RF port (:1) LO +20 dBm	2RF-LO (dBc) LO +20 dBm	2LO-2RF (dBc) LO +20 dBm
RF MHz	LO MHz							
1090.00	1167.00	7.16	38.28	31.98	9.53	1.99	77.16	78.82
1090.00	1183.00	7.20	38.91	32.74	6.39	2.05	78.68	81.18
1090.00	1590.00	7.56	31.65	42.35	2.80	1.80	78.63	78.59
1090.00	1800.00	7.51	32.26	39.17	3.87	1.86	82.75	78.24
1090.00	1900.00	7.51	33.41	33.35	4.61	1.81	79.43	73.96
1090.00	1950.00	7.43	34.22	31.76	3.76	1.75	70.63	68.00

Performance Charts

